

Listing of Claims:

Sub 1
Claims 1-144 (Cancelled)

Claim 145 (Currently Amended)

A method for mapping a heart comprising the steps of:
inserting a mapping catheter, having a tip and an ultrasonic position sensor located at the tip, into the heart;
inserting at least one reference catheter having an ultrasonic position sensor into the heart;
placing the tip of the mapping catheter on a surface of the heart at a plurality of points in time of a cardiac cycle;
determining the position of the mapping catheter relative to the at least one reference catheter by making a geometric snapshot of the heart during each point in time of the cardiac cycle; and
mapping ~~a portion~~ the surface of the heart with the mapping catheter and making a map comprised of each geometric snapshot.

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Claim 146. (Canceled)

Claim 147. (Canceled)

Claim 148. (Currently Amended)

The method according to Claim 147 145, further comprising mapping electrical activity of the portion of the heart with at least one electrode mounted at the tip of the mapping catheter.

Claim 149. (Canceled)

Claim 150. (Currently Amended)

The method according to Claim 147 145, further comprising performing a therapeutic procedure on the portion of the heart.

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Claim 151. (Original)

The method according to Claim 150, further comprising performing an ablation procedure on the portion of the heart.

Claim 152. (Currently Amended)

The method according to Claim ~~147~~ 148, further comprising measuring impedance of the portion of the heart.

Claim 153. (Currently Amended)

The method according to Claim ~~147~~ 148, further comprising measuring mechanical information of the portion of the heart.

Claim 154. (Original)

The method according to Claim 153, further comprising measuring movement of the portion of the heart.

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(cont.)
Claim 155. (Currently Amended)

A method for mapping a heart comprising the steps of:
inserting a mapping catheter, having a tip and an ultrasonic position sensor located at the tip, into the heart;
inserting at least one reference catheter having an ultrasonic position sensor outside of the heart;
placing the tip of the mapping catheter on a surface of the heart at a plurality of points in time of a cardiac cycle;
determining the position of the mapping catheter relative to the at least one reference catheter by making a geometric snapshot of the heart during each point in time of the cardiac cycle; and
mapping ~~a portion~~ the surface of the heart with the mapping catheter and making a map comprised of each geometric snapshot.

Claim 156. (Cancelled)

Claim 157. (Cancelled)

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Claim 158. (Currently Amended)

The method according to Claim ~~157~~ 155, further comprising mapping electrical activity of the portion of the heart with at least one electrode mounted at the tip of the mapping catheter.

Claim 159. (Cancelled)

Claim 160. (Currently Amended)

The method according to Claim ~~157~~ 155, further comprising performing a therapeutic procedure on the portion of the heart.

Claim 161. (Original)

The method according to Claim 160, further comprising performing an ablation procedure on the portion of the heart.

B1
cont.
Claim 162. (Currently Amended)

The method according to Claim ~~157~~ 158, further comprising measuring impedance of the portion of the heart.

Claim 163. (Currently Amended)

The method according to Claim ~~157~~ 158, further comprising measuring mechanical information of the portion of the heart.

164. (Original)

The method according to Claim 163, further comprising measuring movement of the portion of the heart.

Claim 165. (Currently Amended)

A method for mapping a heart comprising the steps of:

- (a) inserting a mapping catheter, having a tip and an ultrasonic position sensor located at the tip, into the heart;
- (b) inserting at least one reference catheter having an ultrasonic position sensor into the heart;

- (c) bringing the tip of the mapping catheter into contact with a wall of the heart at a location at a point in time of a cardiac cycle;
- (d) determining a position of the tip of the mapping catheter at the location and making a geometric snapshot of the wall of the heart;
- ~~(e) adding the position to a map;~~
- (e) [[f]] moving the tip of the mapping catheter to a second location at another point in time of the cardiac cycle and making a second geometric snapshot of the wall of the heart; and
- (f) [[g]] making a map of the wall of the heart based on the geometric snapshots by repeating steps (d) - ([[f]]e).

Claim 166 (Canceled)

B1
cont.
Claim 167. (Original)

The method according to Claim 165, further comprising mapping electrical activity of the surface of the heart with at least one electrode mounted at the tip of the mapping catheter.

Claim 168. (Original)

The method according to Claim 165, further comprising performing a therapeutic procedure on the surface of the heart.

Claim 169. (Original)

The method according to Claim 168, further comprising performing an ablation procedure on the surface of the heart.

Claim 170. (Currently Amended)

The method according to Claim ~~166~~ 167, further comprising measuring impedance of the surface of the heart.

Claim 171. (Currently Amended)

The method according to Claim ~~167~~ 165, further comprising measuring mechanical information of the surface of the heart.

Claim 172. (Original)

The method according to Claim 171, further comprising measuring movement of the surface of the heart.

Claim 173. (Currently Amended)

A method for mapping a heart comprising the steps of:

- (a) inserting a mapping catheter, having a tip and an ultrasonic position sensor located at the tip, into the heart;
- (b) inserting at least one reference catheter having an ultrasonic position sensor outside of the heart;
- (c) bringing the tip of the mapping catheter into contact with a wall of the heart at a location at a point in time of a cardiac cycle;
- (d) determining a position of the tip of the mapping catheter at the location and making a geometric snapshot of the wall of the heart;
- (e) ~~adding the position to a map~~;
- (e) [[f]] moving the tip of the mapping catheter to a second location at another point in time of the cardiac cycle and making a second geometric snapshot of the wall of the heart; and
- (f) [[g]] making a map of the wall of the heart based on the geometric snapshots by repeating steps (d) - ([[f]]e).

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cont.

Claim 174. (Canceled)

Claim 175. (Currently Amended)

The method according to Claim ~~174~~173, further comprising mapping electrical activity of the surface of the heart with at least one electrode mounted at the tip of the mapping catheter.

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Claim 176. (Currently Amended)

The method according to Claim ~~174~~ 173, further comprising performing a therapeutic procedure on the surface of the heart.

Claim 177. (Original)

The method according to Claim 176, further comprising performing an ablation procedure on the surface of the heart.

Claim 178. (Currently Amended)

The method according to Claim 174 175, further comprising measuring impedance of the surface of the heart.

Claim 179. (Currently Amended)

The method according to Claim ~~174~~ 173, further comprising measuring mechanical information of the surface of the heart.

Claim 180. (Original)

The method according to Claim 179, further comprising measuring movement of the surface of the heart.